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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/763,605

01/22/2004

Casey Loyd

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225 South Lake Avenue, 9th Floor  
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EXAMINER

HUYNH, KHOA D

ART UNIT

PAPER NUMBER

3751

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/763,605	<b>Applicant(s)</b> LOYD ET AL.	
	<b>Examiner</b> Khoa D. Huynh	<b>Art Unit</b> 3751	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 March 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's prior art of Figure 4 in view of Shapess (5514943) and Phillips et al. (4453118).

Applicant's prior art of Figure 4 discloses a variable speed electrical motor capable of operating at one of a plurality of discrete operating speeds. The motor includes a start winding and a start capacitor. Applicant's prior art DIFFERS in that it does not specifically include a start winding and a start capacitor for each speed as claimed. Attention, however, is directed to the Shapess reference which discloses, *another multi-speed electric motor*, that single phase, variable speed motors are known to be constructed in a capacitor start configuration, wherein the start circuit includes start windings connected in series with start capacitors in order to provide the high torque during start conditions (col. 1, lines 19-30). Attention is also directed to the Phillips et al. reference which also discloses, *another multi-speed electric motor*, that capacitors may be placed in series with the start windings for further increase the phase displacement of currents between the windings in a known manner (col. 4,

lines 55-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the applicant's prior art of Figure 4 by employing the start winding and start capacitor combination, in view of the teachings of Shapess and Phillips et al., in order to provide the high torque during start conditions and to increase the phase displacement of currents between the windings in a known manner.

Furthermore, even though applicant prior art does not specifically include the selected speed to minimize or eliminate large amperage spikes as claimed, it, however, would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a selected speed to minimize or eliminate large amperage or current spikes. Such modification would be considered a mere choice of a preferred selected speed on the basis of its suitability for the intended use especially since it is known in the variable speed electrical motor control art that changes in speeds cause voltage/current spikes (*see cited US 6078154, US 5686806 & US 4382218*). In other word, each time the speed is switched (*from lower speed to higher speed and vice versa*), the amperage or current applied to the motor is also varied (*larger or smaller*) due to the applied voltages. As would be expected, the currents generated by these voltages spikes could have detrimental effect on the winding and associates components and contributed to the premature components burnout. It is typically recommended that motor be operated with certain predetermined operation parameters, i.e. constant load, constant or selected speeds and so on.

Therefore, it is not inventive to discover the optimum or selected speed for a variable speed electronic motor or device since such discovering is of ordinary skill and common sense.

3. Claims 2, 3, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the modified applicant's prior art of Figure 4 (as discussed supra) in view of Fisher et al. (6121746).

The modified applicant's prior art of Figure 4 DIFFERS in that it does not specifically include a switch disposed externally as claimed. Attention, however, is directed to the Fisher et al. reference which discloses that two speed induction motor are commonly used in swimming pools and spa pumps, and the high and low speeds are typically selected as desired with an external switch (col. 1, lines 7-19). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the applicant's prior art of Figure 4 by employing the external switch, in view of the teaching of Fisher et al., to allow the user to manually select either high or low speed for the running operation of the motor. Since the motor is used in a water-contacting environment, it would be wise to enclose the external switch in separate switch box to improve safety.

4. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lau (6412123) in view of the modified applicant's prior art of Figure 4 (as discussed supra).

The Lau reference discloses a water recreational or spa (Fig. 1). The spa includes a water basin (at 34), a water pump (86), an electric motor (88) for driving the water pump and water circulation conduits (Figs. 5 & 6). The Lau reference DIFFERS in that the electric motor is not a variable speed motor as claimed. Attention, however, is directed to the modified applicant's prior art of Figure 4 which discloses a variable speed electrical motor having all features as discussed in paragraph 2. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Lau reference by employing a variable speed electrical motor, in view of the teaching of the modified applicant's prior art of Figure 4. Such modification would be considered a mere substitution of one functionally equivalent electrical motor for another in the spa art that would work equally well on the Lau reference.

#### ***Response to Amendment***

5. Applicant's amendment, filed on 03/19/2008, to the pending claims is insufficient to distinguish the claimed invention from the cited prior art or overcome the rejections as discussed above.

#### ***Response to Arguments***

6. Applicant's arguments filed on 03/19/2008 with respect to the pending claims have been fully considered. However, they are deemed not persuasive for the following reasons.

In the remarks section, applicant argues against the references, i.e. prior art Fig. 4, Shapess or Phillips et al. individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant also argues that the references alone or in combination would not teach the reduction of amperage spikes as claimed. See remarks section, pages 10-19. The examiner disagrees.

Firstly, the cited prior art references are analogous arts since they are in the field of applicant's endeavor and are pertinent to the particular problem with which the applicant was concerned. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

Secondly, as stated in the above rejection, it is known in the variable speed electrical motor control art that a change in speeds causes voltage/current spikes. Each time the speed is switched (*from lower speed to higher speed and vice versa*), the amperage or current applied to the motor is also varied (*larger or smaller*) due to the applied voltages. Therefore, such modification is merely the use of known technique (i.e. *choosing from a finite number of predictable solutions or speeds*), to minimize or eliminate amperage spikes, to improve a similar device by completely protect the device associates components from prematurely burnout, is not of innovation but of ordinary skill and common sense. *KSR*, 550 U.S. (2007).

And lastly, such reduction of amperage spikes as claimed would have been obvious to an ordinary artisan since applicant (*in the amended specification, page 6, lines 15-20 and in the remarks section*) admits that such reduction of amperage spikes due a selected speed is a general knowledge to one skill in the art.

Furthermore, it is noted that applicant's arguments, as presented in the remarks section, pages 13-17, are not commensurate with the claimed subject matter as presented in the claims. In other words, the argued limitations are not recited in the rejected claim(s) to make the arguments plausible.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khoa D. Huynh whose telephone number is (571) 272-4888. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Huson can be reached on (571) 272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 3751

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Khoa D. Huynh/  
Primary Examiner, Art Unit 3751